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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,469	12/14/2001	Gregory F. Carey	10526-007001	1665

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EXAMINER

WIGGINS, JOHN DAVID

ART UNIT PAPER NUMBER

2856

DATE MAILED: 02/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/022,469

Applicant(s)

Gregory Carey et al.

Examiner

David J. Wiggins

Art Unit

2856



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on December 14, 2001 [Application for US PTO patent]
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 13, 15-24, 26-31, 33-35, 38-40, 42-50, 52, and 53 is/are rejected.
- 7) ☒ Claim(s) 14, 25, 32, 36, 37, 41, and 51 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Mar 14, 2002 is/are a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 06 6) ☐ Other:

Art Unit: 2856

Part III DETAILED ACTION

Examiner's Office Action

Drawings

1. *This application has been filed with formal drawings which have been judged NON-acceptable on their technical merit by the Examiner, while also judged to NOT possess acceptable quality for meeting drawing requirements of any Patent Drawing Review(s) to be done by a US PTO draftsman after the 12/14/2001 filing date and March 14 new drawing submission date; i.e.- January 24, 2003; e.g.- Figure 2 is not even legible or visible enough for the Examiner to understand.*
2. The drawings are objected to because Figure 2 fails to show THE STAINED SURFACE IN THE VICINITY OF THE HOLES THRU THE LAMINATE and any pinholes, colored stains, laminate, web or film [sections], discolorations or unaltered surface features as described in the specification at Page 6, lines 24-31. Any structural detail that is of sufficient importance to be described should be shown [clear and

Art Unit: 2856

visible] in the drawing. MPEP § 608.02(d). Correction is required.

3. The drawings are objected to because The Figure fails to show a descriptive label for such "Electronic Hardware", "Flow Chart" or "Black Box" components indicated thereon: the Title or Function of "Black-Box" part / "Control Circuit" part labelled "A" in Figure 1. Correction is required.

3b. Applicant is required to submit a proposed drawing correction in response to this Office Action. Any proposal by the Applicant for amendment of these drawings to cure stated defect(s) must consist of two parts:

- a) A separate letter to the official PTO Draftsman in accordance with MPEP § 608.02(r); and

- b) A print or "pen-and-ink" sketch that shows any or all changes in red ink in accordance with MPEP § 608.02(v).

IMPORTANT NOTE: The filing of new formal drawings intended to correct any such above noted defect(s) may be deferred until the patent application is allowed by the Examiner, but the print or "pen-and-ink" sketch with your proposed correction(s) shown in

Art Unit: 2856

red ink is required in response to this Office Action, and may not be deferred.

4. Color photographs and color drawings are acceptable only for examination purposes unless a petition filed under 37 CFR 1.84(a)(2) is granted permitting their use as acceptable drawings. In the event that applicant wishes to use the drawings currently on file as acceptable drawings, a petition must be filed for acceptance of the color photographs or color drawings as acceptable drawings. Any such petition must be accompanied by the appropriate fee set forth in 37 CFR 1.17(h), three sets of color drawings or color photographs, as appropriate, and an amendment to the first paragraph of the brief description of the drawings section of the specification which states:

The patent or application file contains at least one drawing executed in color. Copies of this patent or patent application publication with color drawing(s) will be provided by the U.S. Patent and Trademark Office upon request and payment of the necessary fee.

Color photographs will be accepted if the conditions for accepting color drawings have been satisfied. The Examiner cannot determine whether Figure 2 is a "Color Photograph" [or not] ???

Claim Rejections - 35 USC § 102

Art Unit: 2856

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 3, 5, 6-8, 9-10, 11, 12, 13, 15, 18, 20-21, 23-24, 26-28, 30, 31, 35, 40, 42, 44, 45, 49, 50, 52 and 53 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Yarbrough, J.A..

The Applicant is directed to the description given at Column 1, line 29 -Column 3, line 38 along with Figures 1 & 3 for many comparable, pedagogical and diverse details; i.e.- a "machine vision" of photoelectric cells/digital computer used to observe, register and mark any pinhole spots noted on the moving sheet/web via nozzle rack 18; liquid applicator of drum and liquid bath; vacuum applicator of perforated drum via hole(s) part 3; and the use of alcohols, solvents, hydrocarbons, colored liquids and/or dissolved dyes in the liquid applied to one side of a film being tested for pinholes; and the use of absorbent fibrous sheet 2 allows a film sheet 4 to be tested with pressure differentials across the two opposed sides of same film sheet 4 that approach

Art Unit: 2856

and/or exceed the expected normal "in use" pressure difference for same film sheet 4 [an inherent feature of applied use for this reference]. In regards to claims 9-10, the Examiner states that the application of a liquid bath onto a moving sheet web surface will inherently form a film due to such physical properties as surface tension, wetting adhesion and capillary attraction into the porous material, which liquid/water film would tend to form over the whole area of the immersed or wetted sections of moving sheet/web.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Art Unit: 2856

8. Claims 2, 16-17, 33-34, 43; AND 4 and 19 are rejected under 35 U.S.C. § 103 as being unpatentable over Yarbrough, J. and Poulsen, O., in view of [Mushaben, D. et al. and Gardner, H. et al.].

The prior art of Yarbrough teaches using a liquid applicator on one surface of a moving sheet/web while applying vacuum on the other side of same sheet/web in a hole/pinhole Inspecting and Detecting apparatus that covers most features of the instant invention [see Paragraph 06 above for some pertinent details] except for (1) having the hole/pinhole & stained spot detecting equipment be applied to a sheet/web formed of a laminate of film with another material [such as fabrics, barrier film, breathable sheet material, non-wovens material as well as wovens materials]; and the Examiner notes that Poulsen teaches the same apparatus & method features via a liquid applicator on one surface of a moving sheet/web while applying vacuum on the other side of same sheet/web in a material porosity Inspecting and hole/pinhole defect Detecting apparatus that covers most features of the instant invention except for (1) having the hole/pinhole & porous spot detecting equipment be applied to a sheet/web formed of a laminate of film with another material [such as fabrics, barrier film, breathable sheet material, and non-wovens material as well

Art Unit: 2856

as wovens materials]- Poulsen [at his Column 1, lines 8-32, Column 3, line 19 - Column 10, line 34, and Column 11, lines 2-28 along with Figures 1-2] teaches application of defect testing done upon felts, papers, fiber mats, cellulose, non-wovens porous fabric and wovens porous fabric, while Yarbrough teaches application of defect testing done upon impermeable films such as rubber, cellulose, plastics, teflon, polyester resins and polystyrenes. However, the prior art of Mushaben, D. et al. and Gardner, H. et al. discloses the concept of designing, constructing and manufacturing such continuous sheet/web materials as a laminate of film with another material such as fabrics, barrier film, breathable sheet material, non-wovens material, composite sheets and wovens materials. It would have been obvious to one of ordinary skill in the art to consider applying the defect testing apparatus and methods of Yarbrough and Poulsen towards the more complex laminated type of modified materials because both the simpler sheets and complex laminates are subject to the same failure modes; i.e.- occurrence of holes, pinholes and high permeability regions in the moving sheet/web to define a flaw in the manufactured material- it is noted that the flaw finding equipment suggested by a combined apparatus of Yarbrough with Poulsen can be applied to any type of sheet/film

Art Unit: 2856

material [not just a single pure layer, sheet or film], and it is considered desirable to construct bulk materials with a set of consistent & uniform properties so as to achieve a constant quality factor as determined later during the process of quality control testing, thereby giving any materials science artisan the motivation to apply the Yarbrough/Poulsen apparatus towards any simple sheet/web or more complex multi-layered sheet/web.

In regards to claim 4, the Examiner states that it would be obvious to a skilled defect detecting artisan or product quality control expert to consider conducting such any flaw finding upon a sheet/web that is removed from the machine so that the flaw finding can be done in a slower, more careful manner with higher resolution [but without slowing down the moving speed of the manufacturing machinery that is making the sheet/web]. In fact, it is considered Notoriously Old and Well Known to separate such product manufacturing and product testing procedures into two distinct & spatially isolated steps; i.e.- please refer to Olofson, M. US 5847265 dated 12/1998, or Cote, M. US 6228271 dated 05/2001, or Nemeth, K. US 5317898 dated 06/1994. In regards to claim 19, it is considered Notoriously Old and Well Known to issue an alarm upon a defect detector reaching the determination that either unacceptable conditions are occurring or defective

Art Unit: 2856

products are being processed [in order to save a company the costs, time and embarrassment of making/selling poor quality goods in a competitive, low profit per item global market]. of a liquid bath onto a moving sheet web surface will inherently form a film due to such physical properties as surface tension, wetting adhesion and capillary attraction into the porous material, which liquid/water film would tend to form over the whole area of the immersed or wetted sections of moving sheet/web

9. Claims 22, 29, 38-39, 46, 47 and 48 are rejected under 35 U.S.C. § 103 as being unpatentable over over Yarbrough, J. and Poulsen, O., as applied to claims 1 & 45 above, and further in view of in view of [Grollmund, E. et al. or Mason, R.].

As presented in the arguments and grounds for rejection given above at Paragraphs 06 & 08, the combined prior art of Yarbrough and Poulsen teaches all features of the instant invention except for having a rinsing operation and scraper or squeegee operation for cleaning off a sheet/web material after the defect testing step. However, the prior art of Grollmund et al. teaches the use of a scraper (please see their Figures 1 & 4 per showing of part 80 along with Columns 2-5 and Column 7, lines

Art Unit: 2856

4-43); while Yarbrough reveals a wiping pad [part 21 or Figure 3] for drying off the moving sheet/web; and Mason illustrates a sheet/web surface cleaner with material pick-up head for performing a vacuum pick-up of any foreign substances that may be on the sheet/web [i.e.- the surface cleaner would serve to reduce the amount of any accumulated dust, lint, liquid or water upon a sheet/web surface in the defect testing equipment suggested by a combined Yarbrough/ Poulsen; please see Figures 1, 9-11 & 14 along with Columns 2-5 in Mason, and Poulsen at his Column 9, lines 11-27 & 46-58]. It would have been obvious to one of ordinary skill in the art at the time of the invention to consider adding such a scraper into the combined Yarbrough/ Poulsen apparatus because the existence of any spurious matter as dust, lint or liquid drops can cause motion instability of the moving sheet/web at higher rolling speeds AND because it is known desirable to manufacture a supply of rolled sheet material that is as clean & dry as possible; i.e.- free of contaminants, lint, dust, water and moisture so as to deliver a pure virgin product [thus why manufacturers use dessicant packages, cleaning rooms and pure materials during the processing/manufacturing of any commercial product]. Also, it is considered Notorious Old and Well Known (Official Notice) to utilize a rinsing or cleaning

Art Unit: 2856

step after a coloring, dyeing or staining substance is applied onto a product during the manufacture/testing thereof since it is cosmetically appealing to deliver a clean, unblemished product to a paying customer; i.e.- rinsing, cleaning and drying of a manufacture product during and/or after its processing/assembly is a normal and customary step in order to supply a lot/batch of commercial goods with the highest possible standards. In regards to claim 46, please see Column 6, lines 3-58 and Column 7, lines 3-28 along with Figures 7-8 for teachings of a rotary vacuum roll, which features are obviously combinable with the vacuum port and vacuum cylinder drum of Yarbrough in Figures 1 & 3 in order to provide an enhanced pulling of the liquid thru the moving sheet/web, thereby either permitting faster rolling web rotation speeds or else more accurate measurements of porosity, permeability and/or pinhole occurrence [extent of or size of].

Allowable Subject Matter

10. Claims 14, 25, 32, 36, 37, 41 and 51 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2856

11. The following is an Examiner's statement of reasons for the indication of allowable subject matter: The prior art fails to disclose a quality control method and apparatus for *inspecting a moving web* that comprises a film *moving thru a machine* in a direction along a length of the machine, where a pulling vacuum is applied on one side of the web material surface while *a liquid is applied & caused to pass from one side of the web material surface through small holes therein onto the other side of such same web material surface [by same pulling vacuum]* and the *liquid application causing, liquid passing, vacuum pulling application and small hole inspection steps are performed while the web material is moving thru the machine*; where such quality inspecting method or apparatus includes the further features of the objected to claims 14, 25, 32, 36, 37, 41 and 51.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references cited on the accompanying form PTO-892 are listed

Art Unit: 2856

to show examples of state of the art apparatus and methods for determining/assuring the product quality control of a processed, manufactured or tested sheet, sheet web, membrane, coated layer, laminate or film of material in terms of measuring such physical properties of the sheet, sheet web, membrane, coated layer, laminate or film as permeability, porosity, and hole/pinhole [density of, size of, extent of, or occurrence of] by applying a pulling vacuum on one side of the material sample while a fluid is applied onto the other side of such same material sample [whether or not the material sample is a moving sheet or web on a manufacturing machine or conveyor belt-like testing station for quality or defect determination], which share one or more features in common with the instant invention.

13. Since allowable subject matter has been indicated, applicant is encouraged to submit formal drawings in response to this Office action. The early submission of formal drawings will permit the Office to review the drawings for acceptability and to resolve any informalities remaining therein before the application is passed to issue. This will avoid possible delays in the issue process.

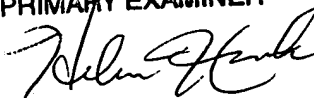
Art Unit: 2856

14. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to J. David Wiggins whose telephone number is (703) 305-4884. The Examiner can normally be reached on Monday to Friday from 9AM to 7PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Hezron E. Williams, can be reached on (703) 305-4705. The fax phone number for this Group is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group Receptionist whose telephone number is (703) 305-4900.

HELEN KWOK
PRIMARY EXAMINER



JDW

WIGGINS/jdw
January 24, 2003